UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
77 WEST JACKSON BOULEVARD
CHICAGO, IL 60604-3590

MAR 6 2013

REPLY TO THE ATTENTION OF:

WC-15J

CERTIFIED MAIL 7009 1680 0000 7669 4803
RETURN RECEIPT REQUESTED

Mr. Robert Fowler
Director of Public Safety/Service
City of Lorain
200 West Erie Avenue
Lorain, Ohio 44052-1647

Subject: Draft Administrative Consent Order for Discussion

Dear Mr. Fowler:

Protecting our nation's water resources and controlling potential sources of pollutants is a high priority of the U.S. Environmental Protection Agency. The City of Lorain has long experienced Wastewater Treatment Plant (WWTP) bypasses and Separate Sewer Overflows (SSO) during wet weather events. Attached is a copy of a draft Administrative Consent Order (ACO).

Please review the enclosed draft ACO. We would like to schedule a phone call to discuss the draft ACO during the first week in April, and will be in contact in the next week to finalize a time. If you have further questions please do not hesitate to contact me at (312) 353-4621.

Sincerely,

Jonathan Moody, P.E., Environmental Engineer – Section 1
Water Enforcement & Compliance Assurance Branch

Enclosures

cc: Chuck Allen, Ohio EPA, Northeast District Office

UNITED STATES ENVIROMENTAL PROTECTION AGENCY
REGION 5

IN THE MATTER OF:	)	
	)	**DOCKET NO.: V-W-13-AO-11**
	)	
CITY OF LORAIN, OHIO	)	**PROCEEDING UNDER**
	)	**SECTIONS 308(a) & 309(a)**
	)	**OF THE CLEAN WATER ACT**
RESPONDENT.	)	
	)	

ADMINISTRATIVE CONSENT ORDER

1. The Director of the Water Division, U.S. Environmental Protection Agency , Region 5, is issuing this Administrative Consent Order (Order) to the City of Lorain, Ohio (Respondent) under Sections 308 and 309(a) of the Clean Water Act (Act), 33 U.S.C. §§ 1318 and 1319(a).

STATUTORY BACKGROUND

2. Section 301(a) of the Act, 33 U.S.C. § 1311(a), prohibits the discharge of any pollutant by any person except, *inter alia*, in compliance with a National Pollutant Discharge Elimination System (NPDES) permit issued pursuant to Section 402 of the Act, 33 U.S.C. § 1342.

3. Pursuant to Section 402 of the Act, 33 U.S.C. § 1342, the Administrator of EPA may issue a NPDES permit authorizing the discharge of pollutants to navigable waters subject to the terms and conditions of the NPDES permit.

4. EPA has approved the State of Ohio (State) program to issue NPDES permits under Section 402(b) of the Act, 33 U.S.C. § 1342(b). The Ohio Environmental Protection Agency (OEPA) is the NPDES permitting authority for the State.

5. Section 308(a) of the Act, 33 U.S.C. § 1318(a), provides, *inter alia*, that whenever required to carry out the objective of this chapter, the Administrator shall require the owner or operator of any point source to: establish and maintain such records; make such reports; and provide such other information as he may reasonably require.

6. Section 309(a)(3) of the Act, 33 U.S.C. § 1319(a)(3), authorizes the Administrator of EPA to issue a compliance order or commence a civil action for appropriate relief against any person who the Administrator finds is in violation of, *inter alia*, any permit condition or limitation implementing the Act in an NPDES permit issued by a State.

DEFINITIONS

All terms used, but not defined, in this Order have the meanings provided to them in the Act and EPA regulations promulgated under the Act.

7. "Asset Management Program" means a proactive system for maintaining a desired level of system performance at an appropriate cost. An Asset Management Program needs to enhance decision making by comparing the degree of mission criticality of infrastructure components to the current level of performance and cost of replacement of those components.

8. "Bypass" is defined in 40 C.F.R. § 122.41(m), and means the intentional diversion of waste streams from or around any unit process within a treatment facility.

9. "Critical storm duration" means a storm duration likely to produce very close to the highest instantaneous flow rates for a given storm return frequency.

10. "Capacity, Management, Operation, and Maintenance Program" or "CMOM Program" means a program for consolidating all sanitary sewer collection system maintenance programs and capital improvement plans for assuring continued capacity in the collection system. An outline of the CMOM Program was submitted to EPA in April 2011.

11. "Day" or "days" means calendar day or calendar days. In computing any period of time under this Order, where the last day would fall on a Saturday, Sunday, federal or state holiday, the period runs until the close of the next business day.

12. "Document" means any writings, drawings, graphs, charts, photographs, phone records, electronic mail, facsimile and other data compilations from which information can be obtained, translated if necessary, through detection devices into reasonably usable form. Documents should be produced as they are kept in the usual course of business.

13. "Energy Improvement Action Plan" or EIAP means a set of specific identifiable actions providing the direction for objectives and targets to be achieved and tracked. The EIAP shall document the tasks, resources, responsibilities, and timeframes for achieving objectives and targets.

14. "Energy Management Program" means the program developed by the Respondent in accordance with Attachment F of this Order. The Energy Management Program shall apply a management systems approach to assess energy usage, establish and prioritize energy conservation measures (ECMs), monitor and measure energy performance improvements and cost savings, and periodically review progress to make adjustments as needed.

15. "Green Infrastructure" shall mean systems and practices that use or mimic natural processes to infiltrate, evapotranspire, or harvest storm water or runoff on or near the site where it is generated.

16. "Infiltration and inflow" or "I/I" means the total quantity of water from both infiltration and inflow without distinguishing the source.

17. "Infiltration" means the water entering a sewer system and service connections from the ground, through such means as, but not limited to: defective pipes, pipe joints, connections or manhole walls. Infiltration does not include, and is distinguished from, inflow.

18. "Inflow" means the water discharged into a sewer system, including service connections, from such sources as, but not limited to: roof leaders; cellar, yard and area drains; foundation drains; cooling water discharges; drains from springs and swampy areas; manhole covers; cross connections from storm sewers and combined sewers; catch basins; storm waters; surface run-off; street wash waters or drainage. Inflow does not include, and is distinguished from, infiltration.

19. "Major Gravity Lines" means any of the following: (i) all gravity sewer lines that are 12 inches in diameter or larger; (ii) all gravity sewer lines, regardless of size, that are necessary to accurately represent flow attributable to a service area in each of the sewersheds; (iii) all gravity sewer lines that convey wastewater from one pump station service area to another pump station service area; and (iv) all gravity sewer lines that have caused or contributed, or that the City knows will likely to cause or contribute to capacity-related overflows.

20. "Record" means any recording of information in tangible form. It includes, but is not limited to, in print or electronic form, documents, memoranda, reports, letters, maps, graphs, charts, log books, notes, computer print outs and computer data bases.

21. "Respondent" or "you" refers to the City of Lorain, Ohio, and any agents, employees, contractors or other entities that performed work or acted in any way on behalf of, or at the direction of, the City of Lorain.

22. "Sanitary sewer overflow" or "SSO" means any discharge from the sanitary sewer system prior to reaching the wastewater treatment plant (i.e., publicly owned treatment works).

23. "Sanitary sewer overflow outfall" or "SSO outfall" means the point source from which SSOs are discharged. SSO outfalls include, but are not limited to, permanently installed overflow structures or pipes that manually or automatically allow a discharge of wastewater (permanent wet weather emergency lift/pump stations) and other discharge locations such as broken sewers or dislodged manhole covers caused by sewer surcharges.

24. "Sanitary sewer system" or "sewer system" means the portion of the wastewater collection system that conveys sanitary wastewater (domestic, commercial and industrial wastewaters).

25. "Sewer shed" means discrete subareas of the collection system, with little or no hydraulic connection to other sewer sheds, for the purpose of flow monitoring and/or modeling purposes.

26. "Sewer sub-basin" means a small (typically containing no more than 20,000 linear feet of sewer) portion of a sewer shed that can be hydraulically characterized by monitoring at a very limited number (often one) locations.

27. "Water in Basement (WIB)" means the circumstance where wastewater enters the lowest floor (typically the basement) of a building due to surcharge in the public sewer serving that building. This definition does not include sewer backups resulting from insufficient capacity or blockages occurring in the private service connection lateral, or blockages in the private service connection lateral caused solely by conditions in that private service connection lateral.

FINDINGS

28. Respondent maintains a system of sewers to convey sanitary sewage to two wastewater treatment plants, known as the Black River Wastewater Treatment Plant located at 100 Alabama Avenue, Lorain, Ohio, and the Philip Q. Maiorana Wastewater Treatment Plant located at 6301 West Erie Avenue, Lorain, Ohio.

29. Under the authority of Section 412(b) of the CWA, 33 U.S.C. § 1342(b), OEPA issued NPDES permit OH0026093 (the permit) to Respondent on June 6, 2005, with an effective date of July 1, 2005, pertaining to the Black River Wastewater Treatment Plant, which discharges to the Black River.

30. Part II, Item I of the permit defines a sanitary sewer overflow (SSO) as an overflow, spill, release or diversion of wastewater from the sanitary sewer system, and prohibits all SSOs except under emergency conditions where the overflow occurs in full compliance with all the provisions of 40 C.F.R. § 122.41(m) and Part III, Item 11 of the permit.

31. On the dates and at the locations indicated in Attachment G to this Order, Respondent discharged overflows of sanitary sewage from its sanitary sewage system to the respective receiving waters, either the Black River or Lake Erie.

32. Upon information and belief, Respondent continues to discharge overflows of sanitary sewage from its sanitary sewage system to the Black River and Lake Erie.

33. The Black River and Lake Erie are each "navigable waters" and "waters of the United States," as defined at Section 502(7) of the CWA, 33 U.S.C. § 1362(7), and 40 C.F.R. § 122.2, respectively.

34. The sewage contained in Respondent's sewer system is a "pollutant" as that term is defined at Section 502(6) of the CWA, 33 U.S.C. § 1326(6), and 40 C.F.R. § 122.2.

35. The locations identified in Attachment G to this Order from which Respondent discharges sanitary sewage to the Black River or Lake Erie are each "point sources" as

that term is defined at Section 502(14) of the CWA, 33 U.S.C. § 1362(14), and 40 C.F.R. § 122.2.

36. Respondent's addition of sanitary sewage to the Black River and Lake Erie from the locations identified in Attachment G to this Order are "discharges of pollutants" as that term is defined at Section 502(12) of the CWA, 33 U.S.C. § 1362(12), and 40 C.F.R. § 122.2.

37. Discharges of pollutants from point sources into waters of the United States identified in Attachment G that are not authorized by a NPDES permit or an approved state program are prohibited under Section 301(a) of the Act, 33 U.S.C § 1311(a).

38. Part III, Item 1 of the permit defines "bypass" as the intentional diversion of waste streams from any portion of the treatment facility.

39. Part III, Item 11 of the permit is a general condition of the permit that prohibits any bypassing or diverting of wastewater from the treatment works unless the bypass was unavoidable to prevent loss of life, personal injury, or severe property damage, if there were no feasible alternatives to the bypass, and if the permittee submits notices of the bypasses to OEPA.

40. On the dates indicated in Attachment H to this Order, the Respondent bypassed secondary treatment at the Black River Wastewater Treatment Plant, and without authorization under the permit, discharged wastewater from the treatment works that did not receive secondary treatment.

41. Discharges of pollutants from point sources into waters of the United States identified in Attachment H that are not authorized by a NPDES permit or an approved state program are prohibited under Section 301(a) of the Act, 33 U.S.C § 1311(a).

42. The laboratory at the Black River Wastewater Treatment Plant lacks a quality assurance manual or any chain-of-custody procedures for in-plant samples or for samples collected at the Philip Q. Maiorana Wastewater Treatment Plant.

43. Failure to use a quality assurance manual or chain-of-custody procedures for sampling constitutes a violation of 40 C.F.R. § 122.41(c), which requires proper operation and maintenance of all equipment and treatment systems used for compliance with the terms of the Permit.

44. On March 17-18, May 4-6, and July 29, 2009, representatives of EPA conducted inspections of the Respondent's wastewater treatment plants and collection system, including inspection of the satellite collection system operated by the City of Sheffield Lake, Ohio. The purpose of the inspections included evaluating compliance with certain requirements of the Respondent's NPDES permits and the CWA. The inspections included interviews of Respondent's staff, document reviews, and inspection of the sanitary waste collection system. EPA conducted a reconnaissance inspection on November 28, 2011. EPA's Inspection Reports for the 2009 inspection and the 2011 reconnaissance inspection are in Attachment I to this Order.

45. On June 23, 2010, EPA issued to Respondent an Administrative Order (EPA Docket No. V-W-10-AO-10). On April 22, 2011, EPA issued a First Amendment of Administrative Order on June 23, 2010.

46. Respondent is a "municipality," as that term is defined at Section 502(4) of the Act, 33 U.S.C. § 1362(4), and 40 C.F.R. Part 122.2.

47. Respondent is a "person," as that term is defined at Section 502(5) of the Act, 33 U.S.C. § 1362(5), and 40 C.F.R. Part 122.2.

COMPLIANCE REQUIREMENTS

48. Respondent must forward copies of all notifications it makes to OEPA regarding the discharges of sanitary sewage from its sewage collection system to EPA at the following address:

Chief,
Water Enforcement and Compliance Assurance Branch (WC-15J)
Attn: Jonathan Moody
U.S. Environmental Protection Agency
77 West Jackson Boulevard
Chicago, Illinois 60604

These notifications include all those required under Part II, Item I of the permit.

49. Respondent must properly manage, operate, and maintain all parts of its sanitary sewer collection system at all times. This requirement includes:

a) Eliminating all SSOs;

b) Providing adequate capacity to convey base flows and peak flows for all parts of the sanitary sewer system;

c) Monitoring for the existence of all SSOs in all parts of the sanitary sewer system; and

d) Mitigating the effects of SSO events on human health and the environment.

50. Respondent must comply with Part III, Item 11.A of the permit. This requirement includes ceasing all bypasses at the Black River Wastewater Treatment Plant except those that are allowed or receive authorization under Part III, Item 11.A.1-3 of the permit.

51. Respondent must comply with 40 CFR § 122.41(e) by implementing the use of a quality assurance manual and of chain-of-custody procedures for any samples taken for use by the Respondent for compliance with the terms of the permit.

52. Respondent must implement a procedure to report all SSOs from its sewers. This procedure must include:

a) Notification to OEPA (1-800-282-9378) and the Lorain County Board of Health within one hour of learning of the SSO. Notification will include location of the SSO, the receiving water, if any, and an estimate of the volume of the SSO.

b) A written report to OEPA (with a copy to the EPA) within five calendar days of the date Respondent became aware of the overflow. The written report must contain:

i. The location of the SSO;

ii. The receiving water or nearest storm water inlet and associated storm water outfall, if any;

iii. An estimate of the volume of the SSO;

iv. A description of the sanitary sewer component from which the release occurred;

v. The estimated date and time when the overflow began and stopped or will be stopped;

vi. The cause or suspected cause of the overflow;

vii. Steps taken or planned to reduce, eliminate, and prevent reoccurrence of the overflow and a schedule of major milestones for those steps; and

viii. Steps taken or planned to mitigate the effects of the overflow and a schedule of milestones for those steps.

53. Respondent will prepare annual reports for submission to EPA. The annual report will convey the following information:

a) Respondent must identify any noncompliance with the NPDES Permit and all steps that have been taken or will be taken to correct the noncompliance.

b) Respondent's progress in implementing the approved April, 2011 Capacity, Management, Operation, and Maintenance ("CMOM") Program.

c) An inventory of all SSOs from Respondent's sanitary sewers for the previous year, identifying the dates, sources, estimated volumes, receiving waters and principal pollutants contained in the discharges. Respondent must also issue a press release informing the public of the availability of the inventory and make the inventories available on its principal webpage.

d) An inventory of all bypasses from both the Black River WWTP and the PQM WWTP, for the previous year.

e) An inventory of all WIBs for the previous year.

f) Respondent's progress in implementing the approved Asset Management Plan.

g) Respondent's progress in implementing the approved Energy Management Program.

The annual reports must be postmarked by January 31 of the year following the year subject to reporting to the Water Enforcement and Compliance Branch Chief at the address provided in Paragraph 48, above.

54. Sewer System Assessment Study

a) Beginning upon the Effective Date of this Order, Respondent shall begin implementing the Sewer System Assessment Study (SSA Study) as described in Attachment A to this Order.

55. Sewer System Assessment Report

a) Within sixty 60 days of the Effective Date of this Order, the Respondent shall submit to EPA the final SSA Study Report described in Attachment A of this Order.

b) EPA in consultation with OEPA will review the final SSA Study Report. Upon receipt of EPA' s final approval of the SSA Study Report and approval of the Hydraulic Model Report described in Attachment B of this Order, Respondent shall utilize the collected data to develop of the Capacity Assessment as described in Attachment C of this Order.

56. Hydraulic Model Work Plan

a) Beginning upon the Effective Date of this Order, the Respondent shall begin development of the Hydraulic Model described in Attachment B of this Order.

57. Hydraulic Model Report

a) Within sixty (60) days of the Effective Date of this Order, the Respondent shall submit to EPA the final Hydraulic Model Report described in Attachment B of this Order.

b) EPA in consultation with OEPA will review the final Hydraulic Model Report. Upon receipt of EPA's final approval of the SSA Study Report described in Attachment A of this Order and approval of the Hydraulic Model Report described in Attachment B of this Order, Respondent shall utilize the collected data to develop of the Capacity Assessment as described in Attachment C of this

Order.

58. Capacity Assessment

a) Beginning immediately with EPA's approval of both the SSA Study Report described in Attachment A of this Order and the Hydraulic Model Report described in Attachment B of this Order, the Respondent shall begin development of the Capacity Assessment described in Attachment C of this Order.

59. Capacity Assessment Report

a) Within sixty (60) days of EPA's approval of both the SSA Study Report described in Attachment A of this Order and approval of the Hydraulic Modeling Report described in this Order, the Respondent shall submit to EPA the final Capacity Assessment Report described in Attachment C of this Order.

b) EPA in consultation with OEPA will review the final Hydraulic Model Report. Upon receipt of EPA's final approval of the Capacity Assessment Report described in Attachment C of this Order, Respondent shall begin development of the Capacity Assurance Plan described in Attachment D of this Order.

60. Capacity Assurance Plan

a) Within one hundred twenty (120) days of EPA's approval of the final Capacity Assessment Report described in Attachment C to this Order, the Respondent shall submit to EPA the final Capacity Assurance Plan described in Attachment D of this Order, for EPA review and approval.

61. Legal Authority

Within sixty (60) days of receipt of the Effective Date of this Order, Respondent shall submit to EPA for review and approval a Legal Authority Work Plan for the development and implementation of a program for ensuring that Respondent has sufficient legal authority to implement the range of programs necessary to properly operate its collection system.

a) Specifically, Respondent's legal authority shall be sufficient to:

i. Control I/I from satellite municipalities and private sources;

ii. Require that sewers and connections be properly designed and constructed;

iii. Ensure that there is proper installation, testing and inspection of new and rehabilitated sewers;

iv. Allow and require implementation of the general and specific prohibitions of the pretreatment program as defined in 40 C.F.R. § 403.5.

b) The legal authority may take the form of sewer use ordinances, service agreements, contracts, or other legally binding mechanisms. The legal authority should specifically control the introduction of Fats, Oils and Grease (FOG) from commercial institutions and establishments.

c) Upon EPA's approval of the Legal Authority Work Plan, Respondent shall, within 3 months, implement the Legal Authority Work Plan and develop and submit to EPA for review and approval, any draft revised legal authorities that satisfy the criteria stated above.

62. Within one hundred twenty (120) days of the Effective Date of this Order, the Respondent shall submit to EPA for review and approval an Asset Management Plan (AM Plan) as described in Attachment E to this Order. The AM Plan is intended to ensure the long-term sustainability of the wastewater utility.

63. Upon EPA's approval of the AM Plan, Respondent shall begin implementing the AM Plan and submit an annual progress report.

64. Within one hundred twenty (120) days of the Effective Date of this Order, the Respondent shall develop and submit to EPA for review and approval the Energy Management Program as described in Attachment F.

65. Upon EPA's approval of the Energy Management Program, Respondent shall begin implementing the Energy Management Program and submit an annual progress report.

SUBMITTALS

66. Respondent must submit all information required by this Order under an authorized signature containing the following certification:

> I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false statements and information, including the possibility of fines and imprisonment for knowing violations.

67. If Respondent finds at any time after submittal of information that any portion of the submittal is false or incorrect, Respondent must notify EPA immediately. Knowing submittal of false information to EPA in response to this Order may subject Respondent to criminal prosecution under Section 309(c) of the Act, 33 U.S.C. § 1319(c), as well as 18 U.S.C. §§ 1001 and 1341.

68. Confidentiality of Submissions: Respondent may assert a claim of business confidentiality under 40 C.F.R. Part 2, Subpart B, for any portion of the information it submits to EPA. Information subject to a business confidentiality claim is available to the public only to the extent allowed by 40 C.F.R. Part 2, Subpart B. If Respondent fails to assert a business confidentiality claim, EPA may make all submitted information available, without further notice, to any member of the public who requests it. Effluent data, as defined in 40 C.F.R. § 2.302(a)(2), and information in permit applications, is not entitled to confidential treatment under 40 C.F.R. Part 2, Subpart B. 40 C.F.R. § 122.7. See also, Attachment J.

69. EPA may use any information submitted in response to this Order in support of an administrative, civil or criminal action against Respondent.

GENERAL PROVISIONS

70. EPA and Respondent recognize that this Order has been negotiated in good faith and that neither consenting to the terms of this Order, nor the actions undertaken by Respondent in accordance with this Order, constitute an admission of liability.

71. Respondent agrees to the terms of this Order and further agrees that it will not contest the basis or validity of this Order.

72. Respondent waives any and all claims for relief and otherwise available rights or remedies to judicial or administrative review which the Respondent may have with respect to any issue of fact or law set forth in this Administrative Consent Order, including, but not limited to, any right of judicial review of this Section 309(a)(3) Administrative Consent Order under the Administrative Procedure Act, 5 U.S.C. §§ 701-708.

73. Respondent reserves the right to contest any future enforcement activity by EPA against Respondent, including but not limited to any future enforcement activity relating to any future SSO or to alleged noncompliance with this Order and/or the NPDES permit.

74. This Order is not a permit under the Act and does not waive or modify Respondent's responsibility to comply with all other applicable federal, state or local laws, regulations, ordinances, permits or licenses.

75. The terms of this Order are binding on Respondent, its assignees and successors. Any change in ownership or corporate status of Respondent including, but not limited to, any transfer of assets or real or personal property shall not alter Respondent's responsibilities under this Order. Respondent must give notice of this Order to any successors in interest prior to transferring ownership and must simultaneously verify to EPA, at the above address, that it has given the notice.

76. The signatories to this Order certify that they are authorized to execute and legally bind the parties they represent.

77. Respondent must ensure that its contractors, subcontractors, and representatives receive a copy of this Order and comply with this Order within 14 days after the Effective Date of this Order or after the date of such retention. Respondent will be responsible for any noncompliance with this Order.

78. EPA reserves all rights and remedies, legal and equitable, available to address any violation cited in this Order and any other violation of the Act, and to enforce this Order. Neither issuance of this Order by EPA nor compliance with its terms precludes further enforcement action pursuant to Section 309 of the Act, 33 U.S.C. § 1319, for the violations cited in this Order, for any other violations of the Act committed by Respondent, or to enforce this Order.

79. The Act includes provisions for administrative penalties, for civil injunctive relief and penalties, and for criminal sanctions for violations of the Act. Specifically, EPA may:

a. Assess civil administrative penalties under 33 U.S.C. § 1319(g) and 40 C.F.R. Part 19 of $16,000 per day for each violation that occurred after January 12, 2009, up to a total of $177,500;

b. Seek civil injunctive relief and penalties for violations of the Act under 33 U.S.C. § 1319(b) and 40 C.F.R. Part 19. EPA may seek civil judicial penalties of $37,500 per day for each violation that occurred after January 12, 2009; and

c. Seek criminal sanctions, including fines and imprisonment, for negligent or knowing violations of the Act under 33 U.S.C. § 1319(c).

80. The information required to be submitted pursuant to this Order is not subject to the approval requirements of the Paperwork Reduction Act of 1995, 44 U.S.C. § 3501 *et seq.* because it seeks collection of information by an agency from specific individuals or entities as part of an administrative action or investigation.

74. This Order modifies and replaces the Administrative Order (EPA Docket No. V-W-10-AO-10), issued by EPA to Respondent on June 23, 2010, and the amendment issued by EPA on April 22, 2011. Such order and its amendment shall terminate upon the Effective Date of this Order.

75. This Order is effective on the date of signature by the Director of the Water Division.

CERTIFICATION OF COMPLETION AND TERMINATION

76. Within 30 days after Respondent concludes that it has complied with all requirements of this Order, Respondent must submit to EPA a written certification of completion describing all actions taken to comply with all requirements of this Order.

77. After receipt and review of Respondent's certification of completion submitted pursuant to Paragraph 76, EPA will notify Respondent whether it has satisfied all requirements of this Order.

This Order will terminate when Respondent receives notification from EPA that it has satisfied all requirements of this Order.

Date	[ ], [Mayor] City of Lorain Lorain, Ohio
Date	Tinka G. Hyde Director Water Division U. S. EPA Region 5

ATTACHMENT A: Sewer System Assessment Study

ATTACHMENT B: Hydraulic Model

ATTACHMENT C: Capacity Assessment

ATTACHMENT D: Capacity Assurance Plan

ATTACHMENT E: Asset Management Plan

ATTACHMENT F: Energy Management Plan

ATTACHMENT G: Sanitary Sewer Overflow Annual Reports 2008 through 2012

ATTACHMENT H: List of Bypass Events at the Black River Wastewater Treatment Plant

ATTACHMENT I: EPA Inspection Reports

ATTACHMENT J: Confidentiality Statement

ATTACHMENT A
Sewer System Assessment Study

1) Sewer System Assessment Study

a) The Sewer System Assessment Study (SSA Study) shall include the following scope as necessary to properly evaluate the existing system in support of the Capacity Assessment presented in Attachment C and the Capacity Assurance Plan presented in Attachment D.

i. The SSA Study shall involve the use of verified existing attribute data, and as necessary, the collecting and use of additional physical attribute data for the City of Lorain Sewer System;
ii. The use of verified existing rainfall and flow data, and as necessary, the collecting and use of additional flow and rainfall data for the City of Lorain Sewer System;
iii. The monitoring of flows at the Black River WWTP and flows at key locations within the City of Lorain Sewer System including bypasses at the Black River WWTP;
iv. The monitoring of groundwater and rainfall at appropriate locations throughout the Sewer System and at the Black River WWTP;
v. The physical investigation of the causes of I/I; and
vi. The documentation of the condition of the portions of the City of Lorain Sewer System causing or contributing to SSOs, Black River WWTP bypassing, and WIB incidents.

b) The SSA Study shall incorporate existing monitoring and characterization data only to the extent that it is of adequate quality and for locations appropriate for the purposes of the study.

c) The SSA Study shall include:

i. the installation of sewer flow, Black River WWTP flow, bypass flow, groundwater level, and rainfall monitoring equipment;
ii. completion of all monitoring activities;
iii. completion of all I/I investigative activities; and
iv. an analysis of the data collected.

d) Respondent shall perform the SSA Study consistent with sound engineering practices and in a manner consistent with the goal of eliminating SSOs, Black River WWTP bypassing and WIB incidents, and may use the following references as appropriate.

i. Handbook: Sewer System Infrastructure Analysis and Rehabilitation, EPA/625/6-91/030, 1991;
ii. Existing Sewer Evaluation and Rehabilitation, WEF MOP FD-6, 1994;
iii. A Guide to Short Term Flow Surveys of Sewer Systems, WRc Engineering (Undated); and
iv. National Association of Sewer Service Companies (NASSCO) "Manual of Practices".

e) In general, the approach to be used in identifying sources of excessive I/I will involve the division of the City of Lorain sewer system into appropriate sewer sub-basins, and the collection of a sufficient "first round" rainfall and flow data at key locations in each sub-basin so as to allow the characterization of each sub-basin's I/I contribution. All sub-basins will then be prioritized, based on I/I contribution and wet weather peaking factors, and subsequent investigations carried out in a sufficient fraction of The City of Lorain collection system to allow the preparation of a Capacity Assurance Plan sufficient, if implemented, to eliminate SSOs, Black River WWTP bypassing and WIB incidents.

f) At a minimum, the SSA Study shall include:

i. Data Management: A system that will organize, analyze, and report all existing data to be utilized and all of the data to be collected in accordance with the requests of this Order;

ii. Quality Control/Quality Assurance: A quality assurance and quality control program that Respondent will follow to ensure the accuracy and reliability of data collected in accordance with the requests in this Order;

iii. Data Review: A review of existing data concerning: SSOs, WIBs, sewer system flows, flows and bypassing at the Black River WWTP; Sewer System attributes (e.g., pipe diameters, pipe segment lengths, diversion structure characteristics, catchment characteristics, invert elevations, pipe interior roughness coefficients, etc.); rainfall and groundwater levels; and an evaluation of the accuracy, completeness and adequacy of that data for purposes supporting the characterization of the Sewer System's condition and sources of I/I. The data review will further identify all additional data needed to allow the SSA Study to satisfy the objectives stated herein;

iv. Rainfall and Flow Monitoring: As part of the SSA Study, Respondent shall carry out both dry and wet weather flow monitoring on a sewershed and sub-basin basis. Dry weather monitoring shall be carried out so as to allow the characterization of base flows and infiltration rates. Wet weather monitoring shall be carried out following events of sufficient duration and intensity to cause significant I/I in the system, and to allow the collection of sufficient rainfall and flow monitoring data to allow the prioritization of sub-basins described above, and to support the development of the Capacity Assessment. The locations, types and rationale for placement of rain gauges, flow monitors, and any other equipment required by this section, as well as Doppler radar, if appropriate.

(1) Rainfall Gauges: Respondent shall monitor the contribution from rainfall to a sewershed within the City of Lorain's jurisdictional boundary as is necessary to allow the prioritization of sub-basins described above, and to support the development of the Capacity Assessment, and the Capacity Assurance Plan. Respondent shall use a network of rain gauge stations with a minimum coverage of one (1) rain gauge station per ten (10) square miles as well as data compiled by Doppler radar utilizing a minimum resolution of one (1) pixel per four (4) square

miles. In the event that Doppler radar is not used, Respondent shall use a network of rain gauge stations with a minimum coverage of one rain gauge station per four (4) square miles. Respondent shall also, where practical and appropriate, locate additional rain gauges within sewershed areas outside its jurisdiction, on properties owned or operated by the Respondent (such as water treatment facilities), or where practical and appropriate, by agreement with third-parties.

(2) Flow Monitoring: Flow data shall be collected using a system of permanent and temporary flow monitors placed at locations in the Sewer System as is necessary to characterize the amount of flow from each sewershed and sub-basin under dry and wet conditions to perform the Capacity Assessment, described in Attachment C, and to characterize every known SSO. The SSA Study shall produce maps showing proposed initial flow monitoring locations and shall describe how an iterative approach to flow monitoring will be used to identify those portions of the City of Lorain Sewer System with the most significant I/I. Respondent shall inspect, maintain and, if necessary, calibrate all flow monitors in accordance with good engineering practice and the manufacturer's recommendations.

(3) Representativeness of Rainfall and Flow Monitoring Data: Respondent's flow and rainfall monitoring network shall be designed, installed, operated and maintained to provide representative, accurate, and precise data of sufficient quality for use in the development of the Capacity Assessment, and the Hydraulic Model. Flow monitoring site selection, equipment selection and installation, calibration, maintenance, and data quality assurance checks shall all be carried out to (1) optimize monitoring accuracy, and (2) conform with the equipment manufacturers' recommendations and current, good engineering practice. The flow monitoring and rainfall data shall be used to prioritize the sewersheds for further flow monitoring and physical investigation activities, as described below.

v. Investigative Activities: Respondent shall perform further investigative activities in sewersheds determined to cause or contribute to SSOs, bypasses and/or overloading at the Black River WWTP, and/or WIBs attributed to I/I or other capacity constraints. The investigative activities shall locate and allow estimation of the wet weather flows associated with individual sources of I/I. The investigative activities shall include, as appropriate:

(1) Additional flow monitoring to isolate sources of I/I. Such flow monitoring will be carried out as specified above in subparagraph 1(f)(iv) above;
(2) Smoke testing;
(3) Visual inspections of pipes and manholes;
(4) Dye testing;
(5) Night flow isolation;
(6) CCTV inspection;
(7) Building inspections.

g) The further Investigative Activities specified in subparagraph 1(f)(v) above, shall be sufficient to allow detailed characterizations of all significant sewer defects in sewer sub-basins with excessive I/I, and to support the development of the Capacity Assurance Plan and the identification of all remedial measures necessary to satisfy the objectives of the Capacity Assurance Plan. These investigative activities shall be carried out in accordance with sound engineering practice and the guidance provided in the appropriate sections of the Handbook: Sewer System Infrastructure Analysis and Rehabilitation, EPA/625/6-91/030, 1991; Existing Sewer Evaluation and Rehabilitation, WEF MOP FD-6, 1994; and the NASSCO "Manual of Practice".

2. Sewer System Assessment Report

The SSA Study will result in completion of a SSA Study Report summarizing the results of the SSA Study to EPA for review, comment and approval. The SSA Study Report shall include the following information:

a. Determination of existing flows for each sewershed and sub-basin within the City of Lorain Sewer System:

i. Average and peak daily dry weather flow;

ii. Average dry weather infiltration rate (in gpd/inch diameter-mile);

iii. Peak wet weather flow, and peaking factors (the ratio of peak flow to average dry weather flow);

iv. Identification of portions of the sanitary sewer system experiencing levels of I/I that cause or contribute to SSOs, bypasses and/or overloading at the Black River WWTP, and/or WIB issues;

v. Identification of specific sources of I/I to the sanitary sewer system by manhole/line segment, street address, type (infiltration or inflow), source (e.g., "wall leakage"), and estimated flow from the source;

vi. A summary of flow monitoring activities, to include, at a minimum, a map showing the delineation of the sewershed, the location and type of each flow meter, problems encountered, and a description of calibration and verification activities, including calibration and validation graphs;

vii. A summary of further investigative activities performed in each sub-basin, to include, at a minimum, type of activity; number of activities performed (e.g., "100 out of 500 manholes inspected in sub-basin 1A"), observations made under each activity (inspection procedure), and summaries of the results in each sub-basin;

viii. A summary of the structural defects identified in the Sewer System to include, at a minimum, the number of each type of defect by line segment, manhole number or street address, and estimate of peak flow from all defects in each line segment, based on a consistently applied set of stated criteria.

b. EPA in consultation with OEPA will review the final SSA Study Report. Upon receipt of EPA' s final approval of the SSA Study Report and EPA's approval of the Hydraulic Model Report, Respondent shall utilize the collected data to develop the Capacity Assessment .

ATTACHMENT B
Hydraulic Model

1. Hydraulic Model

The Hydraulic Model shall include the following scope as necessary to support the objectives of the Capacity Assessment and Capacity Assurance Plan.

a) Respondent shall use its best efforts to configure the model to accurately represent Respondent's collection system, in accordance with currently accepted engineering practice. Respondent may model its collection system in different levels of detail, as necessary to identify the causes of all known overflows, and to assess proposed remedial measures to eliminate those overflows. Respondent's model shall include as a minimum:

i. All Major Gravity Lines;
ii. All pump stations; and
iii. All forcemains.

b) Respondent shall configure the model using adequate, accurate, and sufficiently current physical data (invert and ground elevations, pipe diameters, slopes, pipe run lengths, Manning roughness factors, manhole sizes and configurations, pump station performance factors, etc.) for its collection system. In particular, Respondent shall sufficiently field verify physical data to allow calibration and verification of the model.

c) Respondent shall calibrate and verify the model using appropriate rainfall data, actual hydrographs, and collection system flow data. Respondent shall use separate data sets for calibration and verification. As part of the calibration process, Respondent shall either use existing sensitivity analyses for the selected model, or carry out its own sensitivity analyses, such that calibration effectiveness is maximized.

2. Hydraulic Model Report

a) Hydraulic Modeling activities shall result in the completion of a Hydraulic Model Report summarizing the results of the Hydraulic Model development to EPA for review, comment and approval. At a minimum the Hydraulic Model Report shall include:

i. A description of the Hydraulic Model;

ii. Specific attributes, characteristics, and limitations of the Hydraulic Model;

iii. Identification of all input parameters, constants, assumed values, and expected outputs;

iv. Digitized map(s) and schematics that identify and characterize the portions (including the specific gravity sewer lines) of the Sewer System that shall be included in the Hydraulic Model;

v. Identification of input data to be used;

vi. Configuration of the Hydraulic Model;

vii. Procedures and protocols for performance of sensitivity analyses (i.e., how the Hydraulic Model responds to changes in input parameters and variables);

viii. Procedures for calibrating the Hydraulic Model to account for values representative of the Sewer System and Black River WWTP using actual system and WWTP data (e.g., flow data);

ix. Procedures to verify the Hydraulic Model's performance using actual system and WWTP data (e.g., flow data);

x. A schedule for the development, calibration and verification of the Hydraulic Model.

b) EPA in consultation with OEPA will review the final Hydraulic Model Report. Upon receipt of EPA's final approval of the Sewer System Assessment Study Report and the Hydraulic Model Report, the Respondent shall utilize the collected data to develop the Capacity Assessment.

ATTACHMENT C
Capacity Assessment

1. Capacity Assessment

The Capacity Assessment shall include the following Scope as necessary to support the objectives of the Capacity Assurance Plan.

a. The Capacity Assessment shall include all pump stations, all Major Gravity Lines, all forcemains and siphons, all known SSO locations and areas with known chronic WIBs, and any other portions of the Sewer System that must be assessed to evaluate of the causes of chronic SSOs, bypasses and/or overloading at the WWTP, and chronic WIBs.

b. The Capacity Assessment shall specifically identify the hydraulic capacities of the portions of the Sewer System used in the evaluation included in subparagraph (a)above, and include the following information:

i. Existing and future projected (through current year +20) average wet and dry weather flows:

ii. Existing and future projected peak wet and dry weather flows (through current year +20);

iii. Portions of the system that cause and contribute to SSOs, bypasses and/or overloading at the WWTP, and/or WIBs under existing and future projected conditions identified in (i) and (ii) above; and

iv. Degree to which each portion of the system experiences and contributes to SSOs, bypasses and/or overloading at the WWTP, and/or WIBs under existing and future projected conditions identified in (i) and (ii). The data gained under this section will be used to address requirements in the Capacity Assurance Plan.

c. This assessment shall consider local rainfall data and the impact of an appropriate range of rainfall events, based on return frequency and duration, and on peak wet weather flows within those portions of the City of Lorain's Sewer System identified in the SSA Study. At a minimum, the Capacity Assessment shall consider system performance under the following conditions:

i. Average dry weather;

ii. Specified storm events, to include at a minimum, the following storm events:

(1) 2 year/"critical storm duration";
(2) 10 year/24 hour;
(3) 10 year/"critical storm duration".

These storms shall be based upon the most current National Oceanic and Atmospheric Administration storm return frequency information available from the Hydrometeorological Design Studies Center, or other widely accepted regional sources for the City's geographic region, and all analyses of such storms shall utilize a temporal rainfall distribution pattern recognized in the technical literature as appropriate for City's geographic region.

iii. The Capacity Assessment shall at a minimum characterize system performance by identifying, for each condition considered, each pipe segment operating in surcharged condition, and each manhole or structure at which an overflow or a WIB incident might be expected to occur.

2. Capacity Assessment Report

a) The Capacity Assessment shall result in the completion of a Capacity Assessment Report summarizing the results of the Capacity Assessment to EPA for review, comment and approval. At a minimum the Capacity Assessment Report shall include:

i. A summary of the technical approach utilized in carrying out the analyses;

ii. Summaries, by sub-basin, of the number and footage of sewer segments surcharged, and the number of structures that overflow, under each condition investigated;

iii. Mapping of each sub-basin, for each condition investigated, illustrating each pipe segment operating in surcharge, and each manhole or structure at which overflow or a WIB incident might be expected to occur.

b) EPA in consultation with OEPA will review the final Capacity Assessment Report. Upon receipt of EPA's Final approval of the Capacity Assessment Report, the Respondent shall utilize the results to develop the Capacity Assurance Plan.

ATTACHMENT D
Capacity Assurance Plan

1. Capacity Assurance Plan

The Capacity Assurance Plan (CAP) shall include the following scope that will identify remedial measures that, if implemented, would result in adequate capacity in its sewer system and/or at its Black River WWTP, such that SSOs, bypasses and overloading at the Black River WWTP, and chronic WIBs would be eliminated under current and future conditions.

a. The CAP will include detailed information on the analyses carried out, the methodologies used, and the results of the Capacity Assessment described in Attachment C. The City shall use the results of the SSA Study and the Capacity Assessment to develop its CAP.

b. The CAP shall identify all portions of the system, including the Black River WWTP, with insufficient capacity to convey peak wet weather flows. In the case of the sewer system, insufficient capacity is the inability to convey peak flows without experiencing surcharge sufficient to cause SSOs and WIBs under either predicted peak wet weather or predicted average conditions or both. In the case of the Black River WWTP, insufficient capacity is the inability to provide full treatment, without bypass, to all flow reaching the plant, and to discharge those flows in full compliance with the NPDES permit.

c. The CAP shall account for projected growth through 2033.

d. The CAP shall provide information on the peak flow capacity of all Major Gravity Lines, all forcemains and siphons, all pump stations, and all wastewater treatment facilities.

e. The CAP shall identify all measures necessary to achieve adequate capacity to collect, convey and treat anticipated peak wet weather flows, without SSOs, bypasses and/or overloading at the Black River WWTP, and/or WIB issues. At a minimum, peak wet weather flows shall include the conditions considered as part of the Capacity Assessment. If insufficient capacity to accommodate projected peak wet weather flows exists in any portion of the system, including at the Black River WWTP, the City shall identify and propose measures to provide adequate capacity to eliminate wet weather bypasses and overflows, and chronic WIBs.

f. The CAP shall identify the degree to which inflow and infiltration removal is expected to alleviate capacity constraints, and propose specific remedial measures that will address those capacity limitations not expected to be addressed by infiltration and inflow removal. Anticipated I/I removal rates used in the development of the CAP will reflect current industry practice and local experience. I/I removal projects can include conventional sewer rehabilitation as

well as implementation of green infrastructure projects designed to infiltrate, evapotranspire and reuse storm water as the City deems most appropriate.

g. The CAP shall propose specific remedial measures to address capacity constraints in excess of anticipated I/I removal rates, which may include increases in pump station and sewer system capacity, construction of storage or equalization basin facilities, or increases in WWTP capacity. The CAP shall prioritize the remedial measures based upon:

i. SSO frequencies of activation;
ii. total annual overflow volumes; and
iii. relative likelihood of human health and environmental impact risks.

The CAP shall provide a description of the methodology used in that prioritization.

g. The CAP shall provide estimated capital, O&M and present value costs for each identified remedial measure. Such costs shall be provided in consistent, year-specific dollars.

h. The CAP shall provide a schedule for design, construction, and placement in service of all proposed measures. The City shall identify beginning design, complete design, complete permitting, award contract, begin construction, and complete construction dates for each measure proposed.

ATTACHMENT E
Asset Management Program

1. Asset Management Plan
   a) The Asset Management Plan (AM Plan) shall include, but is not limited to:

      i. Asset Inventory and state of the asset,
      ii. identification of planned level of service,
      iii. critical asset identification,
      iv. life cycle costing, and
      v. long-term funding strategy.

   b) Asset Inventory may include, but is not limited to the following:

      i. Identify and inventory all wastewater assets owned by the Respondent
      ii. Name (or Asset Tag #) for the asset
      iii. Map the location(s) of the assets (along with collected GPS coordinates, as appropriate), and put the location(s) in the inventory. The collection system map shall be of sufficient detail and at a scale to allow easy interpretation. The collection system information shown on the map shall be based on current conditions and shall be kept up to date and available for review by EPA and the Ohio EPA. Such map(s) and collected data shall include, but not be limited to, the following:
         (1) A numbering system which uniquely identifies manholes, catch basins, overflow points, regulators, outfalls, wastewater treatment unit process assets, or other assets;
         (2) All sanitary sewer lines and combined sewer lines and related manholes. Manhole data collected shall include the following:
            A. GPS coordinates for manhole;
            B. Interior materials of construction;
            C. Inlet pipes' diameter size and materials of construction;
            D. Outlet pipes' diameter size and materials of construction;
            E. Manhole rim elevation;
            F. Depth to invert (inside bottom of pipe) from rim elevation;
            G. If rim is well above ground elevations, height of rim above ground surface;
            H. Any NASCCO protocol- identified defects outstanding.
         (3) Each sewer segment's assigned name or number (if applicable), pipe diameter, date of installation, type of material, distance between manholes, and the direction of flow.
         (4) All known or suspected connections between the sanitary sewer and storm drain systems and their approximate GPS coordinates;
         (5) All outfalls, including the treatment plant outfall(s), and any known SSOs and their GPS coordinates, respectively;
         (6) All pump stations and force mains;

(7) Other major appurtenances such as invested siphons and air release valves and their GPS coordinates;
(8) The wastewater treatment facility(ies), including all unit treatment processes;
(9) All surface waters (labeled);
(10) The scale and a north arrow;

iv. Identify anticipated Level of Service (LOS) for the asset (e.g, "Pump Station #31, Pump #2: 20 gpm")
v. Identify the current condition of the asset (e.g., excellent, good, fair, poor)
vi. Identify the current performance of the asset
vii. Identify any redundancy provided for the asset
viii. Identify the purchase/installation date of the asset
ix. Identify the original purchase price of the asset, if known
x. Identify the remaining useful life of the asset
xi. Identify the value of the asset using the cost it would be to replace the asset using the technology the system would employ to replace it.

c) The identification of Planned Level of Service for the Asset may include but is not limited to the following:

i. Overall Process Level; (WWTP Example: "Discharge at NPDES Outfall meeting all permit limitations")
ii. Individual Asset Level; (Pump Example: "Northeast Town Pump Station Pump #2: 20 gpm")

d) The critical asset identification shall determine how the asset may fail and estimate the overall risk of the asset failing. This approach will allow the Respondent to rank assets by their criticality. This may include but is not limited to the following:

i. the likelihood (probability) of failure; and
ii. the consequence (severity) of failure.

e) Life cycle costing may include, but is not limited to, identifying management options and strategies that consider relevant economic and physical consequences, from initial asset planning through ultimate disposal.

f) The long-term funding strategy may include but is not limited to determination of the best manner in which to fund the operation and maintenance, repair, rehabilitation, and replacement of assets to sustain service and performance.

ATTACHMENT F
Energy Management Program

1) The Energy Management Plan shall include, at a minimum:

   a) A baseline assessment, determined from power company bills or other credible source, of electrical and natural gas usage and cost at the facility for 18 contiguous months prior to the Effective Date of this Order. For the same period, a determination of monthly energy intensity expressed as kilowatt-hour (kWh) electrical energy used per million (MG) gallons treated.
   b) A description or map of the area of the facility selected as the focus of the Energy Management Program.
   c) A statement or policy of Respondent's ongoing commitment to factoring energy efficiency into facility equipment and operations decisions.
   d) The staff position assigned to champion the Respondent's Energy Management Program and ensure it is being used to a full extent.
   e) A standard operating procedure to identify energy improvement objectives and targets, and priority projects.
   f) Energy Improvement Action Plans (EIPs) that identify steps Respondent shall take to meet objectives and targets for each priority project.
   g) A standard operating procedure to describe how Respondent monitors, measures and reports to Management on key characteristics of its Energy Management Program including track energy usage and cost, and EIP progress.
   h) A standard operating procedure to periodically review of the status of the Energy Management Program and progress toward accomplishing objectives and targets. The review shall identify improvements resulting from the Energy Management Program and identify needed changes to the Program to achieve the Respondent's energy improvement goals.

2) Upon EPA's approval of the Energy Management Program, Respondent shall implement the approved Energy Management Program in accordance with the schedule approved therein.